MICHIGAN FARMER.

Devoted to Agriculture, Horticulture, and Domestic and Rural Affairs.

NEW Perfect Agriculture is the foundation of all Trade and Industry.—Liebig. SERIES.

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Remedies against the Hessian Fly.

BY DR. FITCH.

(Continued.)

6th. The sixth remedy considered in the essay is "Fly proof wheat." Discarding the idea that there is any variety that is perfectly fly proof, the author yet considers it a well established fact that some kinds escape with little injury, when other kinds are almost wholly destroyed. Several causes are mentioned as assigned in different quarters for this invulnerability. One supposes that fly proof wheat must have smooth leaves, affording no grooved or channeled surface to hold the eggs of the fly. Another, that the leaves stand out horizontally from the stem, or incline downwards, instead of being erect, and that the egg is thus washed to the ground by rains. Another regards the immunity as proceeding from the strength and vigor of the roots, whereby the plant continues to grow notwithstanding the exhaustion of its juice by the worm. Still another opinion (and this, so far as we are informed, is the prevailing one among wheat growers at the west,) attributes the cause to the hardness or solidity of the straw. The kinds enumerated as having a reputation for withstanding the fly, are the Underhill, a bearded white chaff, of hard and solid straw, with a plump yellow berry, requiring to be thoroughly dried before grinding, and then producing excellent flour—the Spelter wheat, growing well on the poorest soil, whether the season be wet or dry, and free from all maladies, but very inferior in quality—the China wheat, which branches and grows very much like rye, ripens at least a week earlier than other varieties, yields largely, and has never been known to be injured by the fly—the Mediterranean, having a long stiff beard, a long red and very flinty berry, and ripening about ten days earlier than other varieties, very prolific, but yielding indifferent flour—the Etrurian, a bald variety, with a strong and vigorous stalk, a beautiful long smooth head, a round, plump, white kernel, with a remarkably thin bran, very productive and as early as the Mediterranean—and the White Flint, which is too well known to require description. In concluding this branch of the subject, the author does not recommend the procuring of any variety *merely* because of its fly proof qualities, believing that in all ordinary visitations of the fly, other measures are a sufficient safeguard.

"7th. *Steeps for the seed.*—These have been recommended with a two-fold view. 1st. To destroy the eggs; decoction of elder, juice of elder, boiling water, &c. These assume the erroneous position that the eggs of the fly are deposited upon the grain; it is manifest therefore that they can be of no utility. 2d. To insure a quick and vigorous growth of the young plant. Where sowing is deferred until late in the season, it may be judicious to resort to some measure of this kind to stimulate the seed to a more speedy and rapid germination and growth. In *Carey's Museum*, (vol. xii., p. 182,) an experiment of a Poughkeepsie farmer is related, who had soaked his seed wheat in a solution of saltpetre, four ounces being dissolved in water sufficient to wet a bushel. After soaking twenty-four hours, it was spread out and dried twelve hours, and then sowed, so late as the first of November. Early in the following June, this crop is reported as being in advance of neighboring ones which had been sowed early. This experiment, and others of a similar character, strikingly indicate that it lies much within the compass of human instrumentality to accelerate the growth of vegetation, by measures of this kind.

8th. *Oats as a decoy.*—It has been recommended, to furnish a crop of young or of "volunteer" oats to the insect, on which to deposit its eggs, and when it has nearly or quite completed this operation, plowing the oats under, thus burying the eggs and larvæ, and then sowing the wheat upon their graves. To us, this appears only as "a tub to amuse the whale;" or, in other words, an admirable project for wheedling honest "Farmer John" into late sowing, upon an enriched well pulverized soil. We have no clear evi-

dence that the fly will deposite its eggs upon oats. It certainly will not be inclined to do so if there is any young wheat, barley, or rye in the vicinity to which it can resort.

9th. *Wheat as a decoy.*—The preceding measure suggests to us another, which is well worthy of the attention of the agriculturist. The facts recorded respecting this insect, clearly show that it is the earliest sowed and most forward fields of grain that are most infested. The fly is attracted to these fields, and finding a more luxuriant vegetation, and a more shady covert here than elsewhere, and meeting with all the accommodations which it desires, it here remains, even though adjoining fields separated only by an open fence, have come forward sufficiently to afford at least a part of the brood, quarters equally as comfortable. To us it appears evident, from these premises, that if one or two acres across the middle of a large field be sowed with wheat about the middle of August, all the flies in the vicinity will be attracted to this point, and there retained; so that it will be perfectly safe to sow the remainder of the field by the middle of September. If the Hessian fly is common in the neighborhood, the early sowed strip will be badly infested. If so, let it be turned under by the plow, either after two or three severe frosts have rendered it certain that the season for depositing the eggs is fully past, or early in the following spring—resowing it with winter wheat in the former case, or with spring wheat in the latter. By this procedure all the larvæ will be buried and perish.—Only in one contingency, as we can perceive, will this plan be inexpedient or liable to fail, namely, when the flies are present in such vast numbers, that the decoy thus prepared is inadequate fully to accommodate them. Upon this point, the amount of damage done at the preceding harvest, will enable the cultivator to judge with a considerable degree of certainty. The advantages which this plan promises, are, that it draws all the insects of the neighborhood together, and destroys their entire progeny; it enables most of the grain to be sowed as early as is desirable; and finally, there will no second or spring generation come forth in the field to attack any part of the crop. This measure therefore, should receive a fair trial from some intelligent wheat grower in a district suffering under this pest."

10th. *Deeply covering the seed.*—This course has been enforced by the following argument: "That when a kernel of wheat is buried to the depth of about three inches, it sends a single stem upwards, which within an inch of the surface forms a crown, sending from that point a tuft of fibrous roots downwards, and a tuft of blades upwards; these become the main roots and stalks if undisturbed. But if these be destroyed by the fly, a new set of shoots and roots start directly from the deep buried kernel, and these latter shoots are not attacked by the fly. A kernel but slightly covered, on the other hand, sends up its blades at once directly from the seed; if these be attacked, therefore, the whole is destroyed." To this argument, Dr. Fitch does not fully assent. His observations lead him to believe that seed slightly covered does not always die whenever its blades are destroyed.—In a meagre soil, he thinks, the seed will die, whether it be covered slightly or deeply;—in a less impoverished soil, if the weather be dry in September, as it frequently is, seed near the surface will often perish, when that which is deeply buried will survive;—in a fertile soil the seed will survive whether it be covered shallow or deep. The measure of deep covering is imperfect in two respects: it does nothing towards destroying the insect or frustrating its operations; and it only shields against the autumnal attack,. Still, this remedy, as a subordinate one, has its value, and may be considered an additional safeguard to the crop.

(To be continued.)

Potatoes—Intermixture of Varieties.

BY A——.

"Potatoes do not intermix from being planted contiguously or in the same hills. The intermixture of varieties takes place in the flower, not in the roots or tubers."—*Michigan Farmer, Vol. 4. No. 2.*

That new varieties are obtained, by the intermixture of the pollen of different varieties is undoubtedly true, and consonant with the economy of nature in the generation of new varieties. But that the potatoe does not intermix by being planted contiguously, is not quite so clear to my mind, as the following facts will show. When a resident of New York, I collected all the choice varieties of potatoes that I could find in the region where I resided, for the purpose of testing their merits. Having in my employment a young Englishman who had been thoroughly educated in horticulture, I directed him to plant the different parcels side by side. He remarked that if I wished to keep them pure, they must be planted in different parts of the field. This was so contrary to the theory of hybridizing, that I paid

but little attention to his remark; and they were planted as I directed. In the fall, when the potatoes were taken from the ground, I found my theory sadly in fault, as they were so mixed up, that I could scarcely find a true type of either of the original varieties planted. That fall I removed to Michigan. The following spring, I purchased some eight bushels of the pink-eye potatoe for seed. I found them all shapes and colors, and had I not had my theory somewhat corrected the fall previous, I should have decided them to have been another variety; notwithstanding the affirmation of the man of whom I purchased them. I planted them apart from the other varieties, and they yielded a most abundant crop, equal to 432½ bushels per acre. On examining them, I found them somewhat improved, as I found occasionally one that was in shape and appearance like the true pink-eye, except that all were more or less blotched with red. Sometimes one half of the potatoe was red, and the other portion white: again, the flesh of some was white with a pink eye like the original type; while the flesh of others was white, bearing a strong resemblance to the pink-eye, except at the eyes, which were white; then again there were the red and blue potatoe that were round. I carefully selected those that most strongly resembled the genuine pink-eye in form and color, and planted them separately: this process was repeated from year to year till they returned to their original purity, with the exception of the color of the flesh; this I have made no effort as yet to correct. For several successive years after I commenced the experiment of expurgating the "spurious blood," it was not unusual to find, sometimes a single potatoe, and sometimes several that were entirely red, and round, growing upon the same stalk with the genuine pink-eye, which, as most of your readers know, is white and long, with a pink-eye. I give you the facts, and leave it for others to explain the principle upon which the tubers intermix when planted contiguously.

Uses of the Black Currant.

The Black English Currant is represented to have qualities that entitle it to extensive propagation. A kind of wine has been manufactured from it, which is celebrated for its medicinal properties. The Boston Medical Examiner, quoted by Fessenden, said of this wine: "It has all the good properties of the best Port, without any of its heating or constipating effects. We could name several instances, where, in great debility and exhaustion, after protracted and severe fever, and from other causes, nothing else could be thought of or taken with pleasure or advantage, in which this wine proved grateful to the palate, and most friendly to the stomach; in which, indeed, it was the principal means of conducting the patient to health and strength. Its exhibition has been attended with remarkable success in the early stages of cholera and dysentery,—and again in the later stages of these diseases, after the symptoms of inflammation or febrile excitement had ceased. It has been strikingly remedial in the low stages of typhoid and bilious fever. We have not room to enumerate many other morbid affections, in which this wine has proved useful. In *sore throat* it has, for many years, been considered almost a specific remedy."

These opinions are confirmed by other testimony. Kenrick, in his American Orchardist, says:—"From the black currant a jelly is made, of considerable medicinal efficacy; a wine is also made from them, which possesses far superior medicinal virtues to Port wine. The jelly has been highly recommended for disorders of the throat, and as a necessary article in the stores of ships sailing to the East Indies. A liquor is prepared from the black currant, which Mr. Forsyth states is possessed of great medicinal efficacy in obstinate coughs, &c. The currants for this purpose are bruised, and being placed in a jar, whiskey or any other species of alcohol is poured over them; the jar is then covered close for a fortnight; after this, the liquor is strained and bottled."

The jelly from the black currant is further described as being fine for the table, and the wine as of peculiar flavor, which to those long accustomed to its use, is delectable.

A friend of ours, who has many years made use of this currant in his family, as a remedy for some of the above named affections, especially for diarrhœa, fully concurs in the foregoing estimate of its value. He considers it also excellent as a preserve.

Perseverance of the Dutch.—The power of 12,000 wind-mills having an aggregate average power of 60,000 horses, is required to prevent two-thirds of the kingdom of the Netherlands from returning to the state of morass and lake, from which the indomitable energy and perseverance of the Dutch people have rescued what is now the most fertile country in Europe. Their government is now engaged in pumping out, by means chiefly of enormous steam engines, the waters of the lake at Haarlem, which covers 70 square miles, and has no natural outfall, being below the lowest practicable point of sluiceage.

Cause of barrenness in rich soils.

It often occurs, in breaking up the oak-openings of the western states, that the plow skirts along the edge of a marsh meadow, where the blackness of the soil, promises a superior degree of productiveness. But the expectations of the inexperienced cultivator have, in such cases, been generally disappointed, this apparently rich soil yielding, on trial, more poorly than any other part of the field. What is the cause?

These meadows, in their natural state, are nearly all the year saturated with moisture, and the consequence is that the character of the soil is literally cold and sour. The continued evaporation of water is the cause of coldness, and the decomposition of the plants which, for centuries, have grown and decayed in those places, has filled the earth with acids. These causes have influenced the character of not only the body of the wet lands referred to, but that of the borders also, where the mixture of earth with the vegetable matter would seem, at first view, to remove all obstacles to fertility.

The clear remedies are, to remove the coldness of the soil by ridding it of superfluous moisture, and then counteract its acidity by the application of the alkalies, ashes or lime. The union of the acids and alkalies will form soluble salts, which are the needed food of cultivated plants.

Subsoils and their Management.

The efficacy of soils for producing good crops, depends much on the subsoil. If this consists of impervious clay or hard-pan, so as to oppose a ready escape to the water, it is evident the accumulation of the heavy rains will materially injure the vegetation above them; for it is certain that while nothing is more essential to productive crops than an adequate supply of moisture to the roots, nothing is more injurious than their immersion in stagnant water. When such is the character of the subsoil, it should be under-drained if possible, or if this be not practicable, it should be broken up and loosened by the use of the subsoil plough.

A variety of ploughs have been constructed for this purpose, but unless it be intended to deepen the soil by an admixture of manures, care should be taken to avoid bringing up the subsoil to mix with that on the surface. In addition to the more ready escape of water thus secured by breaking it up, the air is also admitted, which enables the roots to strike deeper, and draw their nourishment from a much greater depth. The increased distance through which the roots penetrate, furnishes them with an additional moisture during a season of drought, thereby securing a luxuriant crop when it might otherwise be destroyed. This is frequently a great item in the profit of the farmer; as besides the increase of crop which follows a hot dry season when a full supply of moisture is furnished, the product is usually of better quality; and the general deficiency of agricultural produce which ensues from seasons of drought, makes his own more valuable.

As a result of this practice, there is also a gradual increase in the depth of the soil, as the fine and more soluble particles of the richer materials above are constantly working down and enriching the loosened earth below; and in time this becomes good soil, which in proportion to its depth increases the area from which the roots derive their nutriment. So manifest are the advantages which have followed the use of subsoil ploughs, that they have been extensively introduced of late years among the indispensable tools of the better class of agriculturists.

When the subsoil is loose and leachy, consisting of an excess of sand or gravel, thereby allowing the too ready escape of moisture and the soluble portions of manures, the subsoil plough is not only unnecessary, but positively injurious. In this case the surface soil should be somewhat deepened by the addition of vegetable manures, so as to afford a greater depth, through which they must settle before they can get beyond the reach of the roots; and the supply of moisture is thereby greatly augmented. It is better, however, to keep lands of this character in wood, or permanent pasture. They are at best ungrateful soils, and make a poor return for the labor and manure bestowed upon them.

If there be a diversity in the character of the sub and surface soil, one being inclined to sand and gravel, and the other to marl or clay, a great improvement will be secured by allowing the plough to reach so far down as to bring up and incorporate with the soil some of the ingredients in which it is wanting. This mixture is also of remarkable benefit in old or long cultivated soils, which have become deficient in inorganic matters and in their texture.

The effect of long continued cultivation, besides exhausting what is essential to the earthy part of plants, is to break down the coarser particles of the soil, by the mechanical action of the plough, harrow, &c., and in a much more rapid degree, by the chemical combinations which cultivation and manuring produce. A few years suffice to exhibit striking examples in the formation and decomposition of rocks and stones. Stalactites and various specimens of limestone, indurated clays, sandstone and breccias or pudding stones, are found in favorable circumstances, almost under our eye; while some limestones, shales, sandstones, &c., break down in large masses annually, from the combined effect of moisture, heat and frost. The same changes on a smaller scale, are constantly going forward in

the soil, and much more rapidly while under cultivation. The general tendency of these surface changes is towards pulverization. The particles forming the soil, from the impalpable mite of dust to the large pebbles, and even stones and rocks, are continually broken up by the combined action of the vital roots and the constituents of soils, by which new elements of vegetable food are developed and become available, and in form so minute, as to be imbibed by the spongioles of the roots, and by the absorbent vessels, they are afterwards in their appropriate places in the plant. Where this action has been going on for a long period, a manifestly beneficial effect has immediately followed from bringing up and mixing with the superficial earth, portions of the subsoil which have never before been subject to cultivation.

A subsoil which is permeable to water, is sometimes imperceptibly beneficial to vegetation, not only by allowing the latent moisture to ascend and yield a necessary supply to the plants, but a moisture frequently charged with lime and various saline matters, which the capillary attraction brings from remote depths below the surface. It is probably from this cause that some soils produce crops far beyond the yield which might be reasonably looked for from the fertilizing materials actually contained in them. This operation is rapidly going forward during the heat of summer. The water thus charged with saline matters ascends and evaporates at and below the surface, leaving them diffused throughout the soil.—After long continued dry weather, a thin white coating of these salts is frequently discernible on the ground.

Where rain seldom or never falls, this result is noticeable in numerous and sometimes extensive beds of quiescent—not shifting—sand. Deposits oftimes occur several inches in thickness. Such are the impure muriate of soda and other salts in the arid deserts of California; in the southern parts of Oregon; the nitrates found in India, Egypt, Peru, and various parts of the world.—*Allen's American Agriculture.*

Effects of gaseous substances on vegetation.

[*Extract from an article in an exchange paper.*]

It is chiefly by their gases of putrefaction and fermentation that organic matters in the soil become useful as food to plants. The chief of these gases which are emitted from vegetable and animal substances during their decay, are carbonic acid, and ammoniacal gas. As they escape in the soil *they are absorbed into plants by the roots.* If they are given off faster than the roots of plants can absorb them, these gases impregnate the soil, and are there retained until the plants can take them up. Or they fix themselves in the watery moisture of the soil, which is capable of absorbing immense quantities of them, and in this state of solution are sucked up into plants. If, however, through great warmth and moisture, the putrefactive process should be hurried rapidly on, then the gases escape from the soil, and float in the air. Hence, in warm countries and by marshy places, there is so much disease. The hot, moist climate acts on the abundance of decaying vegetation that in its rapid putrefaction, gives out these gases, which are poisonous to animal life, and quickly destroy that life when inhaled by it.

Plants, however, by their *leaves absorb these gases as they float in the air.* They absorb carbonic acid gas, for instance, which is composed of carbon (seventy- three parts) and oxygen (twenty-seven parts;) they appropriate the *carbon*, which forms the substance of their *wood*, and they give back to the atmosphere the pure life-inspiring oxygen. Hence the neighborhood of living vegetation—of trees and plants—to the dwellings of man, is of essential benefit to health; for in the warm moist seasons, when the gases of putrefying vegetable matters, would poison the air we breathe; these kindly preservers throw abroad their absorbing foliage and suck in the noxious gases on which they feed; and thus filter, purify and regenerate the air for man.

Hence also we see the beautiful arrangement of Providence which, when the hot sun causes the moisture to exhale from the subsoil, and rapidly to decompose the vegetable matters in the soil, causing them to emit their noxious gases, in vast volumes into the air—*then* he gives plants and trees their exuberant covering of sponge-like leaves to absorb these gases and purify the air. While in winter, when the cold has arrested the process of putrefaction and congealed the moisture which has hastened its decay, there are no leaves, and no foliage to the vegetable world, because their functions are not required either to support themselves or purify the air for man.

That plants do thus absorb the gases from the atmosphere and convert them into substance, may be proved by many beautiful experiments. If you make an *air tight* case of glass, and put a lamp inside it, the oil and cotton of the lamp, by combustion will begin to disappear. They have partly *burned away*, you say—that is, what has burned away has changed its form, and is in the air; the carbon of the oil and the wick, combining with the oxygen of the air, has produced *carbonic acid gas*, which floats in the glass case.

If instead of a lamp, you put *rotting vegetable or animal matter*, the result would be the same—carbonic acid gas would be formed; the substance of the lamp, or the organic matters would decrease, and the substance of the carbonic acid gas would increase.

A lighted flame cannot burn—nor can animal life exist in this carbonic acid gas, thus confined—consequently the lamp in our case will grow dimmer and duller, and will presently go out—or a living bird introduced, will droop, languish, and die of suffocation.

But introduce into this case, with the lighted lamp, or the bird, a *living plant*, and behold the change! In a little time, the lamp will recover

its brightness, and the bird its life and vivacity. Why? Because the plant absorbs the carbonic acid, and other gases, which choked them, and gives back the oxygen of the air, pure and free, for their subsistence. If you supply the lamp with oil, so that it can continue burning, and keep the plant growing in the case, the light will continue to burn brilliantly, and the plant will maintain a flourishing growth. *The oil of the lamp feeds the plant, and forms part of its substance.* The oil by combustion is converted into carbonic acid gas, and the plant, by absorption, sucks in this gas; retains its carbon and gives back the oxygen, purified, to the air. Exactly the same process would go on if a mass of decaying vegetable matter were substituted for the lamp.

If you take a bottle and fill it with manure and decomposing vegetable and animal matter, and then place over the bottle a flower-pot containing a living plant, so that the mouth of the bottle will exactly fit into the hole at the bottom of the flower pot, you will see that plant in a few days flourish wonderfully in comparison with other plants not similarly favored. Of course there must be heat and moisture enough to make the matters in the bottle putrify and emit their gases. The plant will assume a more vigorous appearance; its wood will increase; its leaves thicken, and deepen in color, and its whole appearance present evidences of abundant food and sustenance. The putrifying matters in the bottle will daily decrease in weight—the plant will daily increase. In time the filth in the bottle will have vanished in a gaseous form; and in a solid and lovely resuscitation will appear in the fragrant plant.

Sir H. Davy introduced the neck of a retort, which he had filled with moist manure under some grass roots in a garden. In a week or two these grasses grew prodigiously.

The Secret of Coloring.

To Color Cotton Black.—Put clear cold water into a tub sufficient to cover the goods, then put into it two and a half ounces of chloride of lime, then put in the goods half an hour—take out and wring, then fill the tub a second time with clear water, and put into it two ounces of sulphate of iron, put in the goods ten minutes, then take out and wring, then put the sulphate of iron water into your dye kettle, and as much clean water as will cover the goods, then put in four ounces of the extract of logwood, one and a half ounce of the sulphate of copper, then boil in the goods from fifteen to thirty minutes.

NOTE.—After coloring, dip the cotton goods two or three times in the chloride of lime water, then wash well in hot strong soap suds and warm water.

Indigo Blue.—Pulverize two ounces of indigo, put in eight ounces of sulphuric acid, in a pitcher; put the indigo into the acid little at a time, and keep it stirring with a stick until all the indigo is in the acid. Let this mixture stand forty-eight hours before you color, then boil water sufficient to cover the goods. Put in the mixture of indigo and acid, then your goods immediately afterwards—let them boil five minutes. This is designed for woolen or silk.

Pink or Light Silk, &c.—Boil water to cover the goods, then put in one spoonful of cochineal, pulverized; one tea spoonful of cream of tartar, and a tea spoonful of the muriate of tin, then boil in the goods from one to ten minutes, until the color suits you. Brass or tin kettles should be used.

Crimson Red—Boil water to cover the goods, put in six ounces of alum; put in the goods and boil thirty minutes—take out and wring, wash the kettle and put in clean water to cover the goods, and then add a half pound of Brazil wood—boil ten minutes, put in the goods and boil ten or fifteen minutes.

London Brown.—Boil water to cover the goods, then put in one pound of Camwood and two ounces of Fustic, boil thirty minutes—put in the goods and boil fifteen minutes, take them out and air them, then add to the dye one tea spoonful of sulphuric acid—return the goods ten minutes, take out and put in a half ounce of the extract of logwood; put in the goods five or ten minutes, then take out the goods and put in one quarter ounce of sulphate of iron, then put in the goods five minutes and done.

NOTES.—To make the muriate of tin:—Put one pound of muriatic acid and half pound nitric acid in a clear glass bottle. Melt seven ounces of block tin as you would lead, then pour it slowly into a pan of cold water, which gives some the appearance of a honey comb—then set your bottle on the hearth before the fire until the acids get somewhat warm, then put in the tin little by little, so as to keep it boiling, when it is all added let it cool for use.

To make chemic blue:—Pulverize one ounce of indigo, then put eight ounces of sulphuric acid into a pitcher, put the indigo into the acid slowly and mix well by stiring with a stick—let it stand two days, then put it into a glass bottle, and ready for use.

The goods that you wish to color yellow, green and blue, should be first boiled thirty minutes in strong alum water, say three ounces of alum to every pound of goods, and after being colored and washed should be dipped in strong alum water and dried in the shade.

To dress Rice.—A lady recommends the following: Soak the rice in *cold salt and water* for seven hours; have ready a stewpan with boiling water, throw in the rice, and let it boil briskly for ten minutes, then drain it in a cullender, cover it up hot by the fire for a few minutes, and then serve. The grains are double the usual size, and quite distinct from each other.

Cultivation for Corn.

Renovation of land by deep plowing.

RICHMOND, Wayne Co., Ia., Jan. 29, 1847.

My present object is, to give a short account of an experiment I tried the last season and the result. I have a small field which formerly had been sown down in timothy and clover; but for many years previous to that time, had been severely cultivated, according to the early mode of this country, until it was so much impoverished that the soil could not produce a crop of grass that would pay for cutting; therefore it was pastured while in grass, which was five or six years. This was considered the poorest field on the farm. Last spring in the month of April, with a strong team and a good plow, I broke it up in the following manner: The plow cut a furrow about five inches deep, and for the want of a subsoil plow (as we have none in this neighborhood) a second furrow was plowed in the bottom of each preceding one, nearly of the same depth, breaking up the ground thoroughly, to the depth of about nine to ten inches; the second furrow was performed by having a pin in the clevice at the end of the beam, by which the plow was thrown off from the land into the furrow previously made. After the plowing was completed in this manner, the ground was thoroughly harrowed both ways of the furrow and diagonally, with an iron-toothed harrow, until perfectly pulverized, then furrowed out and crossed for planting in hills three feet each way. I intended to manure it all in the hill when planted, as without such treatment I thought there was no reason to expect a crop worth attending to. But at the time for planting, there came on an universal wet spell of weather, and after the rain had ceased, and the surface was dry enough to plant, the under-soil was so soft, that the wheels of the wagon would sink to the depth it had been plowed, rendering it so difficult to get through, that I planted it without manure, believing that if I got no crop of corn, it would prepare the soil for a future one. When the corn came up the cut worms came with it, and eat it almost literally up. It was replanted and again eaten off; much of it entirely destroyed. What was left continued to look yellow and weakly until near harvest time, when its color was changed to a thrifty green, and began to grow very fast. After planting I never put a plow in it, but used the cultivator exclusively, and kept the ground constantly clean and mellow.

One end of the field lay near the farm-house, within rambling distance of the poultry, which destroyed the worms on that part to a great extent, and the corn on that portion of the piece grew better and yielded better than the balance of the field. When the crop was gathered I measured a piece off of this best end, and measured the corn accurately. The yield was 113½ bushels to the acre. The balance of the field was measured in the wagon body—measuring one load first, accurately; being the body even full. By this measurement the whole field averaged seventy five bushels to the acre. I am well satisfied, that if this piece of ground had been broken up and tended in the ordinary manner, there would not have been one half the quantity of corn produced. The land lay high and rolling, the soil partaking largely of clay.

My object in this statement is, to induce more experienced practical farmers to test its benefits.

WM. R. FAULKE.

Farmer and Gardener

White Provence Wheat.

By the following extract of a letter from a farmer of Wayne Co., who raised last year a crop of White Provence wheat, it appears in this instance to have come somewhat short of the commendation which has been bestowed upon it in this state and in western N. Y., as a variety which will yield well though sown very late.

"The White Provence wheat you was so accommodating to send me the seed for a year ago last September, I did not realize so good a crop from the last harvest as from the Hutchinson variety, which I had been raising for some years previous:—still I think it a good variety. It was rather late when I got the seed, (25th Sept.)—I had got about done sowing, and was under the necessity of putting it on too poor land. Notwithstanding it took a fine growth and stood fair, but being a little later in ripening than the Hutchinson, and the season being favorable for rust, it was by that considerably shrunk:—in that I was disappointed, having got the idea that it was early to ripen. I sowed 23 bushels of it again last fall earlier, and I think with better prospects, although on land considerably worse. I also sowed last fall 36 bushels of the Sole wheat, at the same time and beside the Provence, and about 50 of the Hutchinson,—so I may have a fair trial of those three varieties, on my lands—and management."

It is proper to add that some of the best samples of wheat we saw last fall were of the White Provence variety, raised in the town of Hanover, Jackson Co.

Professorship of Agriculture.—A new professorship has been established in the Western Reserve College, Ohio, entitled the Professorship of Agricultural Chemistry and Economic Geology. Mr. Forest Shepherd, formerly of Yale College, a man of learning and energy, has been elected to the office.

Sectional Bee-Hive.

[The following plan of sectional hives, which we take from the Farmers' Encyclopedia, appears to possess decided advantages over the wood or straw hives in common use,—and we have the testimony of experienced apiarians who have tried them, in confirmation of that opinion. They are not a very recent invention, yet, for some reason which we cannot divine, have not attracted the degree of attention, to which their merits would seem to entitle them. Some of the patent hives may be, and probably are, superior; but these, while they have the most important requisites of a good hive, are easily and cheaply made, and are free to all—qualities that will commend them to many in a new country in preference to any other.]

It is a great desideratum that honey be brought to market without removal from the hive in which it is originally deposited, which enables the purchaser to keep it in fine condition for any length of time. Few persons will purchase the contents of a very large hive, when honey in small boxes generally sells readily. Hence one great advantage of having the hives constructed in sections, which, being of the same size, can always be fitted over or under each other. According to the views of Mr. Harasti, a skilful bee-cultivator, a good bee-hive ought to possess the following properties: First, it should be capable of enlargement or contraction according to the size of the swarm. Secondly, it should admit of being opened without disturbing the bees, either for the purpose of cleaning it from insects, increasing or dividing the swarm, &c. Thirdly, it should be so constructed, that the produce may be removed without injury to the bees. Fourthly, it should be

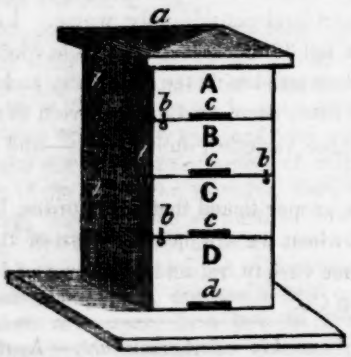


Fig. 1.

internally clean, smooth and free from cracks or flaws. All these properties seem best united in the section-hive, which is constituted of two, three, four, or more square boxes of similar size as to width, placed over each other. Such hives are cheap, and so simple that almost any one can construct them. (See Fig. 1.)

The boxes A, B, C, D, may be made from ten to fourteen inches square and about five inches in depth, inside measure. Every bee-keeper should have his boxes made of the same size, so as to fit on to each other. Every hive must have a common top-board, *a*, which should project over the sides of the hive. The top-board of each section should have about sixteen holes bored through at equal distances from each other, and not larger than ¾ or smaller than ⅝ of an inch. Or, instead of such holes, chinks of proper size may be cut through to allow the bees to pass up and down. At the lower part of each box or section, in front, there must be an aperture or little door, *c*, *c*, *c*, *d*, just high enough to let the bees pass, and about an inch and a half wide.—The lowermost aperture, *d*, is to be left open at first, and when the hive is filled the upper ones may be successively opened. By placing over the holes in the top of the upper section, glass globes, jars, tumblers, or boxes, the bees will rise into and fill them with honey. These may be removed at any time after being filled. The holes in the tops of the hives which do not open into the glasses or boxes should of coarse be plugged up. These glass jars, &c. must be covered over with a box so as to keep them in the dark. Every box or section, on the side opposite the little door, should have a narrow piece of glass inserted, with a sliding shutter, by drawing out which the condition of the hive can always be inspected. To make the bees place their combs in parallel lines, five or six sticks or bars may be placed at the top of every section, running from front to

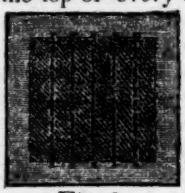


Fig. 2.

rear. The bees will attach their combs to these bars, and the intermediate space will afford sufficient light to see them work. The slides covering the glass should never be left open longer than is just necessary for purposes of inspection.

When one section is removed from the top, a wire or long thin knife must be previously run between this and the one immediately below, so as to destroy the attachments. Then remove the upper section, placing the top upon the one below, which is now the highest division of the hive. Another section is to be placed beneath, lifting up the whole hive for the purpose. Sometimes a second section has to be put under during a good season. If the swarm is not very large three or even two boxes will be sufficient for its accommodation. The boxes or sections may be secured upon each other by buttons, *b*, *b*, or rabbits, and the joints closed with cement.

Quantity of carrot seed to the acre.—If the seed be good, and sown in drills, two pounds to the acre will be sufficient:—If the sowing be broadcast, five pounds would be required. On very rich soils, the sowing of carrot seed with flax may be practised with advantage.

Making Premium Butter.

Sir,—The Philadelphia Agricultural Society, having awarded to me their first premiums for the best butter, for the last two or three years successively, persons are continually applying to me for information, as to my method of producing it, its manufacture, &c.

The Philadelphia market is, you know full well, most highly celebrated for the excellence of its butter, so that the obtaining of this premium every year for the best of the best, is naturally a matter of no small gratification to me; but my real motive in sending this communication for your Journal, is to get rid of the trouble of writing long letters to gentlemen and ladies I never heard of, before they took it into their wise heads to make me pay postage for the *honor* of answering their queries.

I am not aware of anything new or uncommon in my formula, and perhaps my success is more attributable to a well founded system, and entire cleanliness than to any other cause; but however that may be here it follows:

About one week before the day of exhibition, I turn all hands that can be spared from other work, into the springhouse to wash, to scrub, to white wash, &c., in short to purify and clean the floor, the walls, the shelves, the doors, &c., as perfectly as human means can prevail in extinguishing every thing of a filthy nature or unpleasant smell. Do not suppose from this, that my spring house is neglected during other portions of the year; on the contrary, it is kept in more neatness and cleanliness than any other one I know of. The tin pans are then put into a large boiler, and boiled for one hour, then taken out and scoured with *white silver sand and pure hard soap*, then rinsed off in pure clean water and put away for use. Three days before the exhibition, the cows are brought into a clean pen near the spring house; at day-break, their udders are washed with plenty of water and wiped with a clean towel quite dry. Their milk is then drawn into a *tin* pail that has been cleansed as the pans were. The milk is then strained through a perfectly clean muslin strainer into the pans and placed in the spring house; the same process is to be gone thaough at night, the next morning and evening, which will make four milkings;—on the next morning, the whole of the contents of the pans, milk and cream unskimmed, is thrown into a churn, (this churn is one of the common barrel kind, it has been rinsed out with boiling water, with about ¼ of a peck of *hickory* ashes and *live* coals taken directly from a burning fire; this was stirred about for some time by turning the crank—after which the ashes and water were thrown out and the churn rinsed several times with boiling water;) the cows are then to be washed and milked as before, and *this* milk strained and poured warm into the churn,—the operation of churning is then commenced; it must be performed very, very slowly; the tenacity and hardiness of the butter, depends entirely upon slowness in churning, to produce a first rate article; it should take at least three hours; when the butter has thoroughly come, it should be collected together with a clean wooden ladle and laid upon a clean linen cloth, spread out as flat as possible and not more than two inches thick, then take a clean coarse cotton bag, large enough to hold a half peck or more, fill it with ice, and with a mallet smash it down flat, and about four inches thick; upon this, place the linen cloth with the butter on top, let it remain until quite hard, then place it if possible, upon a clean white marble slab, and very finely pulverized salt to the taste, and then work out the butter milk with the wooden spoon or ladle, spreading the butter flat again and again, and sopping up the butter milk with the linen cloth. This operation must also be performed very slowly; when entirely divested of all butter milk, make it up in forms of pound or half pounds.

I am well aware that all this is very troublesome, but what good thing can we have in this world without care and attention?

As regards the best kind of cows, I am sorry to differ with most of my Agricultural friends inasmuch as that, after an experience of more than twenty years, I find that the beautiful and stately Durhams, do not produce butter or cream to compare at all in quality with the humble, and I must admit, very mis-shapen and ugly Alderneys. I have had no personal knowledge of Devons or Ayrshires, never having owned one. My Alderneys were imported some years ago by Mr. Sarchette, from the Island of Guernsey,—a different animal altogether from the English Alderney, or rather from the Alderneys that have been imported from England. I have frequently had sweet cream upon my table from these Alderneys, so thick or rich, or whatever you please to call it, that it could not be poured from a small mouthed pitcher without the aid of a spoon. The milk of one good cow of this breed, will impart a most beautiful yellow color to the milk of four or five cows; they are exceedingly hardy, and stand our climate better than any other imported breed. Should you deem this communication of sufficient interest to publish it, please correct any inaccuracies, as I have not time to write it over.

I am very truly yours,,

Philip Physick.

Germantown, Pa.

N. B. New milk is the most effectual absorbent of sulphuretted hydrogen gas, "*et id omne genus*" that I am acquainted with, which can be added to old milk and cream for the purpose of purifying it without injury to the butter; this is my reason for adding the last milking quite warm from the cows to tde old milk in the churn. I do not require my people to skim our milk, because it is a waste of time, for one reason, and for another, because I think the milk washes all offensive matter out of the butter; besides the butter

milk is sweet and not sour as is usual, for I maintain that perfectly pure and sweet butter (let the test be a chemical one,) cannot be made from sour cream.—*American Far.*

Nursery of Wm. R. Prince & Co. Flushing, N. Y.

A communication of five pages has been received from the gentleman whose name is at the head of this article, (the proprietor of a nursery which has furnished many trees to the Western States,) in answer to certain charges in our February No. preferred by Mr. Cook, of unfair dealing in filling up an order. The letter did not arrive till our March No. was issued.* We were willing to give Mr. P. an opportunity to vindicate himself; but justice to our readers forbids that we occupy so much space with matter of little general interest, especially as it bears the marks of haste, a large part, we are obliged to say, being irrelevant, and some of it found erroneous on comparison with his own bill, which has been placed in our hands by Mr. Cook. We shall therefore state briefly the substance of the replies, and how far the allegations are answered, and then shut the subject from our columns:—keeping the papers on file for the perusal of any who may wish to examine the matter more particularly.

Mr. Cook's charges were as follows:—That articles were sent which had not been ordered. 2. That some of the prices charged were far above the catalogue prices. 3. That a part of the money sent was retained without equivalent.

Of Mr. C's three specifications under the first charge, one is not mentioned; another, (that of sending double the quantity ordered of *Arbor vitæ* at more than treble the price,) is in part excused by the assertion that none of the size sent for were on hand; the third is accounted for by pronouncing the figures in the order defaced.

Relative to extra prices, on comparing the specifications of Mr. Cook with Mr. Prince's bill and catalogue, the statements of the former have been found correct. Respecting one, that of charging 37½ cents per tree on an order for 60 pear trees, while the catalogue price was $30 by the hundred.—Mr. Prince remarks that his prices for fruit trees by the hundred do not apply when any less quantity are ordered. In this he adopts a different rule from that which holds with Ornamental trees, &c., where an order for 12 or upwards entitles the sender to the price per hundred.

As to the money retained, that was acknowledged at the footing up of the bill, and is now remitted to us to be handed to Mr. C., which has accordingly been done.

Had Mr. Prince seen fit to comply with Mr. Cook's request to send us the order in question, (or a copy,) a more complete comparison could have been made. We believe we have done justice to the parties as far as the opportunity was afforded.

Mr. Prince closes with the following:

"CHALLENGE.—In order to settle the point as to which nursery executes orders most fully and advantageously to the purchaser in all respects—we wish those who desire trees would send exact duplicate orders to us and to any other nursery, and then decide by the result to their own satisfaction.

WM. R. PRINCE & Co."

* The above article was prepared for our April No., but in making up the paper was crowded out.

Remarks on Hedges.

BY WM. R. PRINCE.

H. Hurlbut Esq:—I noticed in your number for the present month, Mr. J. Nash's article on "Hedges," in which he makes some comments on an article written by me. I am pressed with business affairs, but will make a few remarks.

Although, as he states, many other trees and shrubs are used in England for hedging, the Hawthorn constitutes more than twenty rods for one of either of the others; and it was therefore deemed the most important one for my comments.—Another reason for passing over several of the species he enumerates, was their *total inappropriateness to the climate*,—such as the Holly, Yew, English Laurel, Furze, &c.,—my object being always *to write to the purpose*. The Buckthorn, (so called) cultivated in England for hedges, is a different shrub from the Buckthorn (*Rhamnus Catharticus*) cultivated extensively for the same purpose in Massachusetts and other sections of our own country. As to the European Sweet Briar for a hedge, it is not to be thought of in comparison with the Prairie Rose, of your western regions. The Box, *Pyracantha* and *Cydonia Japonica* (not *Pyrus Japonica* as he calls it) are of slow growth, and not worthy attention, as the native species of our own country will form a more perfect hedge in less than half the time.—As to the other European trees he enumerates, they are no better, and in most cases not so good for the purpose as many native species. The Beech and Hornbeam of Europe make their growth with only about half of the rapidity of the American species. The Privet is very extensively used for hedges in the middle and southern parts of France, and, as Mr. N. states, very many other trees and shrubs are adopted for the same

object. The Privet will, in time, make a hedge protective against cattle, but in common with many other shrubs, is not deemed the best or most permanent for that object.

To sum up all in all, I deem among deciduous trees, the Honey Locust (*Robinia pseudacacia*) as the most prompt and efficient in cold latitudes, and among evergreens the Red Cedar, and the American, and Tartarian Arbor Vitae;—the two last forming the most beautiful of hedges, perfectly protective against cattle, and of quick growth for that class of trees. The other species of weaker shrubs may be used where there is no danger from cattle, and where ornament is the principal object.

Mr. N. calls in question my application of the title "Strawberry tree" to the *Euonymus*, and says he has always understood it to be applicable only to the "*Arbutus*." A little more American travel will set him right in this matter. If I were writing for the European press, I would apply it to the latter; but when I am addressing Americans, I make use of terms which are trite and applicable. Of the Euonymus, more than half the number of species are natives of our own country, and it is called "Strawberry tree" in various parts of the country where found growing in a wild state, and in numerous gardens.—The Arbutus is so little known among us, that not one person in a thousand ever saw or heard of it, and it is not found in one garden out of every thousand; and besides is so tender that it cannot be kept alive in the middle and western states without protection. It would therefore have been about as appropriate, when discussing the subject of the different trees and shrubs *best suited* for hedges in this and your region of country, to have described some species in the moon, as to have referred to the Arbutus, or to have quoted that as the "Strawberry tree" to American readers, when the term is applied in this country to the Euonymus. Mr. N. also misapplies the term "Spindle tree," and gives it as a general title for the genus "Euonymus," whereas it is only applicable to one European species, the *Euonymus Europeus*, that alone being the one that has been proved suitable for spindles.

In conclusion, I will simply say that the idea advanced by some of ditching beside the hedge, or of planting the live hedge on an embankment, will prove pernicious and inappropriate, on account of the diminution of moisture and nutriment, which in these cases should necessarily be derived from the earth in the most ample degree.

Linnaean Botanic Garden and Nurseries,
Flushing, N. Y. March 25th, 1847.

Keeping Eggs.

A friend who has had no inconsiderable experience in the business, informs us that he has tried many methods for preserving eggs, but that the following has proved the most effectual. Take a cask or box, or any vessel that is proportioned in size to the number of eggs required to be kept, and cover the bottom with finely pulverized salt. The eggs are to be set on the small end, so near as to touch each other, and the interstices to be filled with salt, the whole to be covered with a stratum of the same article, and another layer of eggs deposited in the manner of the first. In this way the cask may be filled. If the eggs are deposited on their large ends, the yolk will adhere to the shell, and become putrid. We have tried the above on a small scale, and find it to work admirably. A correspondent, to whom we some time since communicated the above method, and in whose statements we place the most implicit faith, in a letter to us, recently received, remarks as follows:—"I have adopted the plan recommended by you, in keeping eggs, and find it to answer admirably. I have now several dozen eggs which were packed one year since, and which are now as sweet as when taken from the nest."—*Maine Farmer.*

Hints on Gardening.

Gathered from a discussion in the N. Y. Farmers' Club.

Mr. Meigs recommended that the paths in the garden be turnpiked and raised to at least the level of the tops of the beds—in order that in damp or wet weather one can walk over them comfortably—and that in showers, the water may settle on the beds rather than form, as it does in our sunken paths, so many muddy ditches.

It was an idea of Chancellor Livingston to plant on the north side of the garden the tallest trees, and then all other trees, shrubs and plants in succession towards the south side of it, as they diminished in height down to the creeping plants, such as the strawberry; so that looking on the garden, the tops of all the plants would be rising gradually one above the other, like the benches of an amphitheatre from the south to the north, where the tall trees would break the northern blasts.

In setting out cabbage plants the method has been successfully adopted, of putting boards on both sides of the rows of plants after they are set, within an inch or two of the plants. The effect of this covering of the soil is said to be, to cause the plants to thrive in a singular manner, and also to do another vast service to the gardener, by preventing the growth of weeds.

In drought the oftener the ground is hoed or stirred, the safer the plants, however dry the surface of the soil may be.

To raise fine horse radish, dig trenches two feet deep, fill them half full of good manure of

cows, pigs, &c. Then fork up the bottom of the trench so as to mix the soil and manure, then fill in the trench with good soil, make holes at suitable distances, deep, and put in the roots.—They will grow very long, tapering downwards like a carrot, one solid root. When you want horse-radish, cut off below the surface, leaving the late root which grows again: they will thus for a long while continue a fine supply every year.

The morning sun is of peculiar importance to plants. It is said that one hour of it in the morning is worth two in the afternoon, and we should avail ourselves of a knowledge of our climate so as to manage plants properly; we generally have too much heat of the sun—it is far different in the moist climate of England.

Grubs in the heads of Sheep.

[Heavy losses have been sustained by wool growers the present spring in some parts of the interior of the State from grubs in the head, and we hasten to publish again the method of cure, and also that of prevention which is contained in the American Shepherd.]

Blacklock says, "Much annoyance is caused to the sheep by the presence of animals in the *air passages.* The *Œstris ovis* (Gad-fly) deposites its eggs on the margin of the nostril in autumn; these are soon hatched, and the larvæ immediately find their way up the interior of the nose, till they arrive at the frontal sinus, a cavity situated between the layers of the frontal bone, and of considerable size in the sheep. Here they remain until the following spring, when they quit, burrow in the earth for a short season, then become winged insects, and ready to enter upon the career of torment so ably gone through by their predecessors."

To prevent the attacks of this mischievous insect, it will be found necessary about the beginning of July, and again about the first of August, to assemble the flock, and thoroughly tart he parts adjacent to the nostrils. Others have tried, with success, smearing the bottoms of troughs, and sprinkling salt occasionally over it. The effluvia of tar is abhorrent to all winged insects; and hence the philosophy of this treatment.

Few sheep are exempt from grubs in the head, and when the number does not exceed two or three, will not cause much annoyance. It feeds on the mucus secreted by the sinus membrane.

When the number of grubs is larger than common, they produce much irritation, and the sheep will sneeze violently. Blacklock says, "Tobacco smoke is the only available remedy, and a very good one, being easily brought in contact with the worms, and, when properly administered, certain in its effects. One person secures the sheep, holding the head in a convenient position, while another, having *half-filled* a pipe with tobacco, and kindled it in the usual manner, places one or two folds of a handkerchief over the opening of the bowl, then passes the tube a good way up the nostril, applies his mouth to the covered bowl, and blows vigorously through the handkerchief. When this has continued for a few seconds, the pipe is withdrawn, and the operation repeated on the other nostril."

The Strawberry.

[We take the following from an article by A. H. Ernst, a Cincinnati correspondent of the Horticulturist.]

The sexual character of the Strawberry plant is so deeply interesting that I shall be pardoned for dwelling somewhat on that subject. The strawberry plant, as now understood, may be divided into three distinct classes or divisions.—First, those having both stamens and pistils so developed and perfect, that the one may fertilize the other, and are thus fruitful in themselves, or in other words, *perfect plants.* The second, are those having pistils or female organs fully developed, with generally the rudiments of the stamens, or male organ, but so defective as to be incapable of fertilizing the pistils; these are called pistilate, or female plants. The third, are those having the stamens perfectly developed, but mostly without the pistilate organs; these are called staminate, or male plants. Each of these divisions consists of innumerable varieties, of separate and distinct origin, varying more or less in the developement of their sexual organs, so that it is not unusual to find a partial crop of fruit on some of the two last named divisions. These last two are, however, dependant on each other for a perfect and full fruiting. When the plants are properly proportioned, this is always more abundant than that of the first division. An important question has been raised, "how far is the character of the staminate impressed on the pistilate to affect the size and flavor of its fruit?" If we may be permitted to reason from well established analogies, it is certain that the seed does possess the properties of both parents to a greater or less degree. This would seem to justify the idea that the pulp also may, for that is as much the result of the union of the sexes as the seed, which it only envelopes. [Our correspondent forgets that many male plants bear fine fruit, minus the seeds, without the aid of stamens—ED.] If it be true (as is believed by some) that the flavor of the cucumber is imparted to the melon, by the pollen of its bloom on the pistils of the other, there would seem to be good reason for directing attention to the subject, in the hope that it may induce those who have leisure, and feel an interest in the advancement of horticultural knowledge, to test the question by careful experiments.

Rules for the use of lime on soils.—R. L. Pell, the distinguished farmer of Ulster Co. N. Y., in an essay read before the Farmers' Club, states the following as the rules by which he is governed in the application of lime to agricultural purposes :—

"1st. Never to use any stone lime containing magnesia.

2d. Never to use caustic lime upon dry sandy upland.

3d. Never to use lime of any description upon undrained land.

4th. Always to put it on in summer, when the weather is dry, in a palpable powder, and plow it under as often and as shallow as possible, mixing it thoroughly with the surface soil.

5th. When caustic, to plow it under at once, in order that it may slack in the soil, instead of on the surface, by which many of its valuable properties are lost in the atmosphere.

6th. To place large quantities of caustic lime upon lands overgrown with noxious weeds, coarse, useless herbage, wild grass, and obnoxious bogs, all of which it immediately decomposes, and converts into valuable humus, readily soluble in water."

Analogy between the diseases of the animal and vegetable kingdoms.—For a long time iron has been used in medicine to combat debility in animals, and give tone to their tissues and organs. Irrigations of water containing in solution two grains of sulphate of iron (copperas) to the quart, on the soil at the foot of the stems of plants, or upon their leaves, caused them to assume a fine green color in about fifteen or twenty days ; even those leaves which have turned yellow from the *languor* of the plant—and their growth is stimulated by it.

Things to be Remembered.

Horses should never be put to severe work on a full stomach. More horses are hurt by hard driving after a full feed, than by a full feed after a hard driving.

If the farmer wishes to have his pork barrel and meal chest hold out, let him look well to his kitchen garden. Plenty of vegetables conduce not more to health than to profit.

In laying in a stock of winter fodder for animals, let it not be forgotten that a little too much is just enough. Starving animals at any time is miserable policy.

As you treat your land, so it will treat you.—Feed it with manure liberally, and it will yield you bread bountifully.

Avoid debts as you would the leprosy. If you are ever tempted to purchase on credit, put it off for three days. You need time for reflection.

Never beg fruit, or any thing else you can produce by the expenditure of a little time or labor. It is as reasonable to expect a man to give way the products of his wheat field, as his orchard or fruit garden.

If you keep your sheep and cattle in your meadows until June, do n't complain next winter because you are compelled to purchase hay for your stock.

The man who uses good seed, has a good soil, and works it in good season, rarely fails of having a good crop to reward his toil.

Never forfeit your word. The saying in truth of any farmer, "his word is as good as his bond," is worth more to him than the interest of $10,000 annually.—*Ex.*

Cure for choked Cattle.

Mr. Holmes :—Several years ago an ox of mine got an apple in his throat, and I poured a pint of oil down ; but it did no more good than it would if I had poured it into a hollow stump, that I could see. I then took an oak whipstock and *pushed* the apple down, and the ox was well.

Ever since that time I have kept an instrument made on purpose for the business. It is made of tough white oak, and very nearly the shape of a whipstock. The large end is about an inch in diameter ; but the most of the length is small enough to bend easy to the shape of the throat. A hollow is made in the large end, so it shall *take*, and not slip by, the apple, or potato, or whatever the obstruction may be. It is made very smooth, and the corners on the large end are rounded.

A very intelligent farmer, of this town, always uses a tarred rope for the business, and he finds it to answer a good purpose. He is often called by his neighbors to *un*choke their cattle, and he never, he says, fails in doing it.

I have known several instances of persons pounding up the obstruction by striking, on the outside, with a mallet. But I never knew an animal so used to live. It pounds up the throat more than the obstruction, after which it is impossible to use *rational* means to good advantage.

Plow Jogger.

Maine Farmer.

Speedy Cure for a Foundred Horse.

As soon as you find your horse is foundered bleed him in the neck in proportion to the greatness of the founder. In extreme cases you may bleed him as long as he can stand up. Then draw his head up as is common in drenching, and with a spoon put far back on his tongue strong salt, until you get him to swallow one pint. Be careful not to let him drink too much. Then anoint round the edges of his hoof with spirits of turpentine, and your horse will be well in one hour.

A founder pervades every part of the system of a horse. The phleme arrests it from the blood, the salt arrests it from his stomach and bowels ; and the spirit of turpentine arrests it from the feet and limbs.

I once rode a hired horse 99 miles in two days, returning him at night the second day ; and his

owner would not have known that he had been foundered if I had not told him, and his founder was one of the deepest kind.

I once, in a travel of 700 miles, foundered my horse three times, and I do not think my journey was retarded more than one day by the misfortune, having in all cases observed and practiced the above prescription. I have known a foundered horse turned in at night on green feed, in the morning he would be well, having been purged by the green feed. All founders must be attended to immediately.—*S. W. Farmer.*

How to Decoy and Destroy Ants in Dwelling Houses.

When practicable, place as near the end or passage on a level, a basin or bowl filled with dry mould; then put a bone or bones of fresh meat in the bottom—such as are discarded from the dining room. You will soon find your tormentors congregate thousands strong; for I assure you they are first-rate bone-polishers. Forty years ago, when a boy, whenever I wanted a particular bone of a duck or goose polished, I always found the ant-hill the best manufactory.—Have in readiness a strong solution of boiling salt and water, and when you perceive your enemies begin to retreat, cover them with it. Salt and water cold will destroy them poured into their haunts; but the better way is to decoy them out of their strong holds. It will be good policy to wash out the basin or bowl, and fill it with fresh mould previous to a second decoy, as it will be perceived salt is not a favorite.—*Gardener's Chronicle.*

Useful Recipes.

To make "King Oil."—Take 1 oz. green copperas, 2 oz. white vitrol, 2 oz. common salt, 2 oz. linseed oil, 8 oz. molasses, and 1 pint urine; boil for fifteen minutes over a slow fire, and when nearly cold, add 1 oz. oil vitriol and 4 oz. spirits turpentine—apply with a feather. This application I have tried on several severe wounds on horses, in very cold weather, with the best results. If applied early, it will keep out cold, and cause the wound to suppurate and heal soon. (It need not be bandaged.)

Liquid Opodeldoc, for bruises and sprains on horses, and for pains and rheumatism on myself. Take 1 quart whiskey, and dissolve in it 6 oz. castile soap, heating it over a slow fire till it is completely incorporated; then let it cool, and add 1 oz. camphor.

I found the foregoing recipes in an agricultural paper some years ago, and having tried them effectually, can recommend them to others. If inserted in thy paper, I think some of thy subscribers may be led to say, as I have done, "this recipe has been worth more to me than the whole cost of the paper for a year." R. H. G.

Green Hill, Col. Co., O.

Ohio Cultivator.

To make Soft Soap.

Take 20 pounds of potash and dissolve it in 25 gallons cold soft water, (an iron kettle is the best to put it in.) It will take 5 or 6 days to dissolve, unless the weather is perfectly warm. When dissolved, take 20 pounds of clean grease, or rough grease that will make that weight, and cleanse it with white ley, then strain it through a sieve or cullender in the soap barrel, and add the potash ley, being careful not to disturb the sediment; then soak the sediment of the potash with a few gallons more of soft water, and pour it into the barrel, so as to save all the strength of the potash.

Remedy for the Bots.

Mix a quart of new milk and half a pint of molasses, well together, drench the horse with this on an empty stomach, then give him moderate exercise, till it operates, when it will be found that his discharges will be well filled with this troublesome worm. If there be no molasses at command, the same quantity of honey, or half a pound of sugar will answer fully as well.

Something for the Farmers.

The best composition that can be prepared, to relieve carriage wheels and machinery from friction, is composed of hog's lard, wheat flour and black lead (plumbago.) The lard is to be melted over a gentle fire, and the other ingredients—equal in weight—may be added, till the composition is brought to the consistency of common paste, without raising the heat near the boiling point. One trial of this paste will satisfy any one of its superior utility.

Horse Power.—We are frequently asked the question, what is understood by a horse power? and why that way of reckoning power came to be adopted, and brought into general use?

Before the power of steam was generally known and applied to mechanical purposes, horses were used to raise coal and other heavy bodies, and Mr. Motts, in his experiments, carefully compared the relative power of the different breeds of horses, and found its average equal to raising 33,000 pounds one foot per minute, or what is equivalent, to raise 330 pounds 100 feet, or 100 pounds 330 feet during that space of time, when attached to a lever or sweep of a given length. Thus, this afterwards became the standard of measuring power or force applied to mechanical purposes, and which is still retained in common use.—*Farmer and Mechanic.*

Composition for Peach Trees.—One-third soot; one-third lime; one-third sulphur—mixed with water to the consistency of paint—to be laid on all the tree, before the buds appear.

EDITOR'S NOTE BOOK.

Mt. Airy Agricultural College.—Wealth accumulated by successful commerce, has seldom been more rationally & more usefully applied than in the case of James Gowan Esq. of Philadelphia, who retired to a farm in the neighborhood of the city, and by the exercise of much judgment, skill and science, made it a model of productiveness and profit. He is now about establishing on his estate at Mt. Airy, an Agricultural College, "to educate youth in the leading branches of popular learning as taught in our colleges, with the addition of practical and theoretical Agriculture and Horticulture, with their attendant sciences." Students are to be admitted at ten years old and upwards, and the charge per annum for board and tuition will be $200 per annum. The college will be opened on the 1st of September next, provided eighty students shall offer on or before the first day of July.

The Gooseberry.—In the cool and humid climate of England, the gooseberry attains unrivalled size and perfection. In America, the fruit is greatly inferior, and is particularly subject to mildew, owing, as is supposed, to the heat and dryness of our seasons. With a view to obviate this effect of climate, the method has been recommended of planting the gooseberry in the shade of buildings, high fences, or trees. It has even been found to have the effect of preventing mildew, to let grass grow undisturbed around the bushes.

Application of manure.—A correspondent of the Maine Farmer says:—"Farming has been my business all my lifetime. I have tried numerous experiments with manure; and from my experience, I think manure does the crop as much good *next* year, when it is put on the field *this*, and rotted there, as when it is rotted in a heap this year, and put on the field next; and that the good which the green manure does the crop this year, which is, as every one knows, considerable, is clear again."

A Farmers' Club in Hillsdale Co.—A letter from D. Kinne, Reading, Hillsdale Co. says:—"We have this day (April 17th) held a primary meeting, for the purpose of organizing a farmers' club, which was very well attended; and after a temporary organization, and some consultation on the subject of the necessity of a union of action among farmers in the disposition of their surplus produce, &c., a committee was chosen to draft a constitution for the consideration of the meeting on the adjourned day."

Prospects of the Wheat crop.—In some parts of the state wheat has winterkilled, and in others where this has not been the case, the appearance of the crop at the opening of the spring was quite unpromising. A letter from Reading, Hillsdale Co. says:—"Wheat in this vicinity is winter killed to considerable extent. My opinion is that in this town one third, at least, of the crop on the ground is dead. Many pieces are being plowed up for a spring crop."

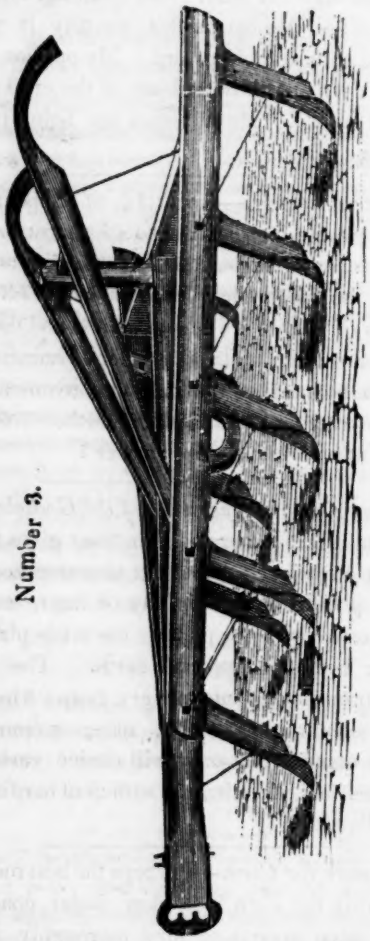
Cheese-making.—J. F. J., of Lapeer Co., wishes "some instruction as to the most improved and labor saving methods of dairying:—especially, the mechanical process by which whole shelves of cheese are turned at one and the same time; also some hints of a general character, relative to the most economical and convenient plans for constructing cheese houses and their fixtures." Will some correspondent answer?

To originate new varieties of the Gooseberry.—The Indiana Farmer and Gardener gives the following directions: "Let our common gooseberry be planted in the vicinity of improved kinds and crossed with the pollen; the seeds planted in pots or beds of light, rich earth. The second year, transplanted into nursery rows; when they bear, select the best and plant again from them. In this manner, not only will choice varieties be obtained, but varieties of a sufficient hardiness for our climate."

Manure for Corn.—Perhaps the best method of manuring for corn is to plow under coarse manure, deep enough to bury thoroughly and ensure its decomposition, then spread well rotted manure on the furrows and harrow it in, or put it in the hills after marking out for planting. Thus the fine manure gives the corn a good start in the outset, and the coarse manure affords its aid in the latter part of the season, when the roots have extended wide and deep, in lengthening and filling out the ear. This is the method by which the late Darius Comstock, the veteran farmer of Lenawee Co., raised 115 bushels to the acre.—By well rotted manure, we mean that which has rotted under favorable circumstances to prevent waste.

Mountain Ash—Answer to inquiry.—C. Eldred, of Climax, Kalamazoo Co., writes us: "For the information of your correspondent respecting Mountain Ash, we saw it growing in the garden of Mr. Miller, Kalamazoo, and learned from him it grew spontaneously in that vicinity."

HARRISON'S IMPROVED SHOVEL-POINTED CULTIVATORS.



Number 3.

Number 1, is a first rate article to use in the corn-field, instead of the plow and hoe.

Number 2, will answer the same purpose, and for cross plowing with a single horse

Number 3, will supersede the necessity of having a cross plow or a drag. This answers the purpose of both.

Those who farm it on the improved methods, will find these cultivators a vast improvement. I have tried them sufficiently to satisfy me in regard to their value.

JONATHAN LAMB.

Waterloo, March 30, 1847.

The advantages of this unrivalled cultivator, have the past season, been fully and faithfully tested, and it is by common consent, admitted to be by far the best cultivator now in use. They are manufactured at Blissfield, Lenawee County, Michigan, and can be obtained at reasonable prices at Monroe, Adrian, Jackson, Maumee, and most of the towns in Michigan, and Western Ohio.

Jonathan Lamb, of Waterloo, Jackson County, is the regularly authorized agent for selling the rights to manufacture said cultivator for the Western States.

ALMOND HARRISON.

Blissfield, April 3, 1847.

Corn for fodder.—Sow three bushels of shelled corn broadcast on clean, rich, well prepared ground between the middle of May and the first of June. Or sow thick in drills two feet apart with a corn planter or drill barrow, and cultivate between. A yield of from five to ten tons of the best dry fodder may be expected. It should be cut when beginning to throw up the tassel, and is best cured by tying into small bundles as soon as cut, and setting up in shocks. Be careful to let it stand long enough to dry thoroughly before stacking or mowing away.

☞ Doing acts that are productive of good, even after one is dead, is the right kind of patriotism.

CONTENTS OF THIS NUMBER.

Remedies against the Hessian Fly;..... 17
Potatoes—Intermixture of varieties;..... 18
Uses of the Black Currant;..... 19
Cause of barrenness in rich soils; Subsoils and their management;..... 20
Effects of gaseous substances on vegetation;..... 21
The secret of coloring; To dress rice;..... 22
Cultivation for corn; White Provence wheat;..... 23
Sectional Bee-Hive; Quantity of carrot seed to the acre;.. 24
Making premium butter;..... 25
Nursery of Wm. R. Prince & Co.; Remarks on Hedges;... 26
Keeping eggs; Hints on gardening;..... 27
Grubs in the heads of sheep; The strawberry;..... 28
Rules for the use of lime on soils; Things to be remembered; Cure for choked cattle; Speedy cure for a foundered horse;..... 29
How to destroy ants; Useful recipes; To make soft soap; Remedy for the bots; Composition for carriage wheels; for peach trees;..... 30
Editor's Note-Book;..... 31
Market Intelligence, advertisements, &c..... 32

Market Intelligence.

DETROIT, May 3d.

FLOUR.—From $4.37½ in the streets, to $4,70 on board.

PROVISIONS.—Butter, rolls, 12½c; firkin, 10c. Lard, 8c. Shoulders 4½ @ 5½. Hams, common, 6 @ 6½—extra 7 @ 7½c, Beans, 62½c. Meal, $1 per 100 lbs. Potatoes, 37½ @ 44c.

SEEDS—Clover, $4, Timothy, $1,50.

NEW YORK, May 1.

FLOUR has a downward tendency for parcels on the spot, but to arrive there is no marked change Sales Western $7,44 @ $7,50. To arrive in May $6.50, and $6 to arrive in July. Navigation on the Erie canal was opened on the 28th April, when it was estimated 3000 boats were put in requisition between the Hudson and the lakes. Freights from Buffalo to Albany opened at $1 per bbl. on flour.

By advices from London and Liverpool of April 5, holders and importers of flour were firm at previous rates. Western canal moved off freely at 37s 6d @ 38s. Good American corn held firmly at 52s per quarter for yellow, and 50s for white.

MICHIGAN FARMER.

VOLUME V.—NEW SERIES.

PUBLISHED BY WILLIAMS AND HURLBUT, DETROIT.

H. HURLBUT, EDITOR.

TERMS.—One copy for 50 cents—Five copies for $2—Eight copies for 3—and at this last rate for any larger number; payable in advance. Subscriptions commence with the volume. Letters containing remittances in current bank bills may be sent at the risk and expense of the publishers.

PREMIUMS.—Any person sending $1, post paid, shall receive two copies of Volume V., and a copy of Volume I, II or IV, at his option. Volume III is exhausted.

A remittance of $5 shall entitle the sender to twelve copies of Volume V, and one copy of Volume I. II and IV each; or thirteen copies of Volume V. and a copy of Volume IV. The premiums will be sent by mail unless otherwise ordered, and will be subject only to newspaper postage.